

Executive Summary

At the direction of Governor Bob Holden, the Department of Agriculture established a group of 38 leaders from all facets of agriculture to assess the current climate of agriculture in our state and to develop an agenda for its future. Throughout the spring and summer of 2001, these leaders conferred on issues and held public input forums to develop the scope of the problems and opportunities facing Missouri agriculture. The following strategic plan is based on the findings of the Governor's Task Force on Agriculture.

Vision: To be a leader of a dynamic, sustainable, prosperous agriculture.

Mission: To serve, promote, and protect the agricultural producers, processors, and consumers of Missouri's food, fuel, and fiber products.

Values: We value:

- A prosperous agricultural economy that will enable all Missourians to achieve a higher quality of life.
- The preservation and enhancement of our environment and agricultural resources.
- A market based economy and a level playing field for all those involved.
- Consumer confidence in a quality product at a fair price.
- Opportunities for personal growth, professional development and organizational advancement.

Outcome: Improved Net Farm Income

Objectives:

1. Increase the economic impact of department services provided to Missouri firms and farms.
2. Increase sales of Missouri crops and livestock.
3. Improve producer and consumer protection.

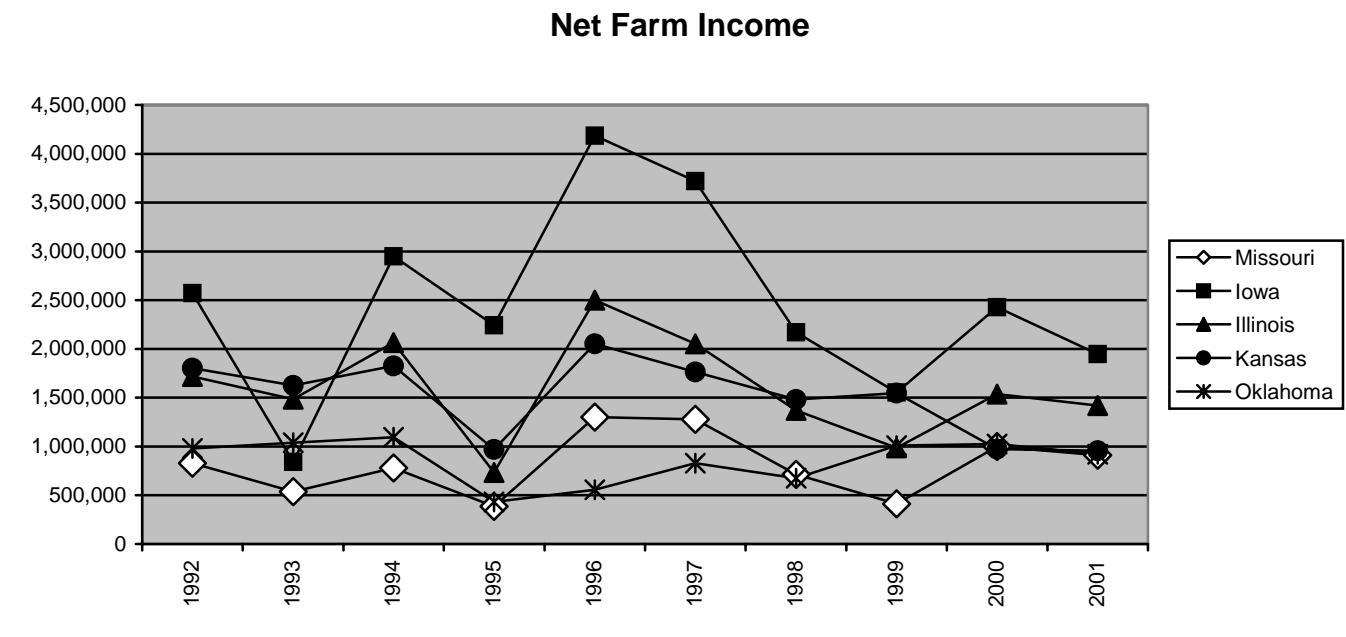
Key Strategies:

1. Create a more favorable business climate for Missouri agriculture.
2. Develop new and expanded product and market development opportunities for Missouri agricultural products, both raw and processed.
3. Expand access to capital for business creation and expansion.
4. Create an organizational and communications infrastructure to better serve the needs of the agricultural community.

Key Programs:

1. Missouri Agricultural and Small Business Development Authority
2. Agricultural Business and Industry Support
3. Market News
4. Animal Disease Control
5. Grain Regulatory Services
6. Feed and Seed Inspection
7. Petroleum Inspection
8. Missouri State Fair

Key Outcome: Improved Net Farm Income



Source: USDA Economic Research Service

Why This Measure is Important

Measures of farm-sector income are valuable indicators of how well agriculture and rural economies are performing. Farm income affects the prosperity of not only farm households, but rural businesses other than farms. When farmers use their income to purchase farm inputs and household goods they infuse the economy with additional funds, contributing to the revenues of other local businesses and the maintenance or creation of local jobs. Lending institutions also share in the benefits of net farm income due to the improved repayment capacity of farm borrowers and reduced risk in farm loan portfolios.

Trend Analysis

Missouri's net farm income reached record levels in 1996 and 1997 before falling dramatically in 1998 and 1999. Market prices for Missouri's major crops and livestock were under significant pressure during 1998 and 1999 due primarily to high crop yields worldwide and reduced export demand. These low market prices and the drought of 1999 weakened Missouri producers' financial position. However, a rebound in crop and livestock receipts and an increase in federal farm payments lifted Missouri's net farm income significantly in 2000. In 2001, net farm income was relatively stable as the increased value of the state's agricultural production was exceeded slightly by a combination of increased input costs and reduced government payments.

How Missouri Compares to Others

According to USDA's Economic Research Service, Missouri's neighboring states experienced similar declines in 1998 and 1999. From 1996 to 1999, Iowa, Illinois, and Kansas experienced net farm income declines of 63%, 61%, and 25% respectively. Oklahoma was the exception in showing an increase during this time. From 1999 to 2001, Missouri led neighboring states with a 121% increase in net farm income. Iowa and Illinois experienced increases of 25% and 44% respectively. Kansas' and Oklahoma's net farm income declined by 38% and 9% respectively over this two year period.

What Works

Income is created by production, and the value of production is the primary determinant of net farm income. After a two year period of weakness in 1998 and 1999, grain and oilseed prices are expected to recover steadily over the next few years in response to strengthening demand and a growing world economy. Fruits, vegetables, and greenhouse/nursery products are also expected to continue their steady rise in sales.

The value of livestock production is also expected to grow steadily over the next several years. Relatively low feed costs, steady consumer income growth, and strong demand have encouraged higher beef and pork production. The demand for U.S. livestock exports has been strengthening, perhaps helped by greater consumer confidence in U.S. food safety.

Agricultural exports will likely continue to grow in importance. With production increasing faster than domestic demand, export markets are important for sustaining prices, revenues, and farm income. Export revenues accounted for 24 percent of Missouri's farm cash receipts in 2001 and are a key factor in determining gains in net farm income. The value of exports attributable to MDA's international marketing activities has increased from \$3.7 million in FY '97 to \$16.9 million in Fiscal Year 2003.

Major incidents of illness associated with food consumption have greatly increased consumer concern about food safety in recent years. For example, outbreaks in Europe of BSE and foot-and-mouth disease led to dramatic declines in beef consumption there and significant losses for associated industries. In the first year of the crisis, the UK's total economic loss from BSE was estimated at US\$1.2-1.6 billion. The recent discovery of a BSE infected Canadian cow was a serious blow to the Canadian cattle industry. All of Canada's export markets banned Canadian beef within hours of the case being announced. Animal disease control remains a critically important function for MDA.

Disease outbreaks have also fostered consumer interest in purchasing organically produced foods, supporting production processes that are environmentally friendly, and encouraging farming operations that take animal welfare concerns into consideration, though these activities may not necessarily factor into protection from disease transmission. Markets for these foods remain small but are expanding. MDA is positioned to take full advantage of these emerging opportunities.

Department initiatives such as identity preserved marketing, specialty crops, organic production, and value-added processing will help producers capture more of the revenue stream in the agri-food system. New forms of producer organization (e.g. new generation cooperatives, producer alliances, strategic partnerships) and improved marketing strategies have also proven effective in increasing net farm income and are included in the department's strategic priorities.

Concerns

- Production agriculture and net farm income are particularly vulnerable to declines in world economic growth, increased foreign production, a strong dollar, increases in energy costs, and weather.
- Net farm income is a relatively good indicator of how well the agriculture sector as a whole is performing. However, as an aggregate measure, net farm income does not reveal the wide variations in income and circumstances among various categories of

farmers and does not include off-farm income and wealth, which have become increasingly important.

- Net farm income includes the value of government payments to agricultural producers. Changes in the level of government payments can have a significant impact on net farm income.
- Net farm income does not fully capture the profits obtained from processing or marketing value-added products. As agricultural producers move into value chains and closer to the consumer, many of the benefits will not be reflected in the net farm income measure. However, one of the department's key objectives measures the total economic impact of MDA services, which reflects more of the value obtained from these processing and marketing activities.

Other Sources of Information

USDA's Economic Research Service—<http://www.ers.usda.gov>

Missouri Agricultural Statistics Service—<http://agebb.missouri.edu/mass>

Food and Agricultural Policy Research Institute—<http://www.fapri.missouri.edu>

Data Table

Net Farm Income—Missouri & Surrounding States

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
—Thousand dollars—										
Missouri	827,834	536,486	779,708	386,212	1,302,484	1,277,811	715,432	411,863	1,000,980	909,969
Iowa	2,574,372	842,127	2,949,756	2,242,470	4,184,338	3,721,237	2,170,272	1,553,074	2,427,202	1,946,475
Illinois	1,717,483	1,483,837	2,063,426	735,639	2,501,600	2,050,559	1,368,209	986,057	1,537,088	1,418,739
Kansas	1,804,088	1,624,422	1,825,025	970,202	2,050,964	1,761,825	1,481,240	1,547,578	974,454	958,188
Oklahoma	981,247	1,040,145	1,094,195	431,123	558,438	828,599	675,932	1,009,425	1,025,231	922,482

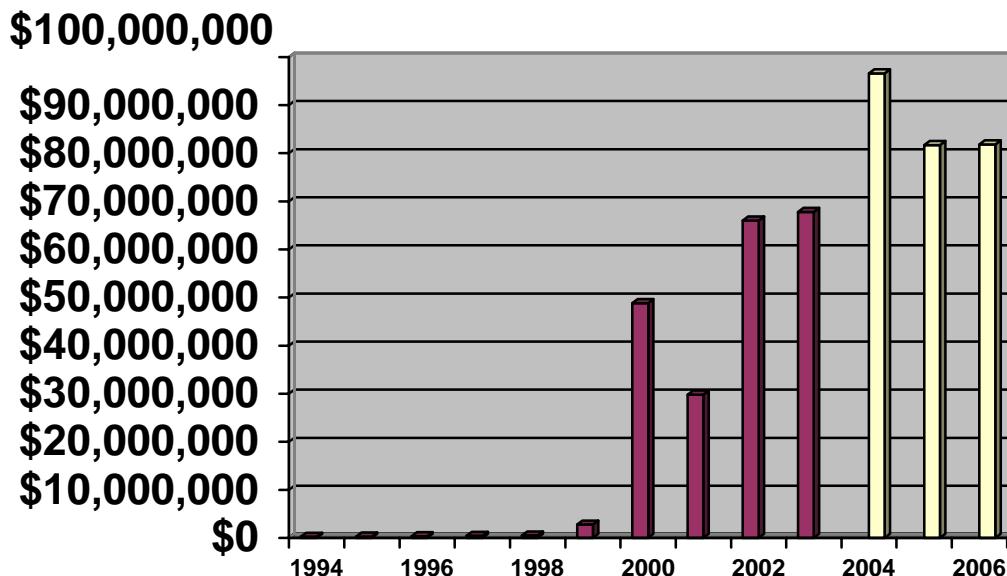
Source: USDA Economic Research Service

Description of Measure

Net farm income is net cash income (i.e. cash receipts less operating costs) adjusted for changes in inventory values and capital replacement costs. Net farm income represents the income earned by farmers, their partners, and others who supply the labor, management, and capital for use in production agriculture. Net farm income does not include the additional income farmers may receive from processing or marketing value-added products.

Key Objective: Maintain at least an \$81 million annual economic impact through FY 2006 for MDA services provided to Missouri firms and farms.

Economic Impact



Data Source: MDA Program Data

Why This Measure is Important

Economic impact is a measure of the true value of money's effect on the economy. The local economic impact gives the communities a sense of ownership. The direct economic impact provides opportunities for local communities, businesses, and schools to maintain economic viability.

The Federal Reserve Bank of Kansas City's Center for the Study of Rural America reports that while agriculture is no longer an economic tide that lifts all of rural America, it is the leading source of income to about a quarter of all rural communities.

This measure is an indicator of the ability of MDA to leverage the limited resources available to Missouri agriculture.

Trend Analysis

The department's efforts provided for a modest but steady increase through 1999. However, with the implementation of the Missouri Value-Added Grant Program, Missouri Value-Added Loan Guarantee Program, New Generation Cooperative Incentive Tax Credit Program, and the Boll Weevil Eradication Program a significant increase in economic activity was recorded.

Major economic activity is dependent upon value-added enterprises becoming operational. Typically these enterprises have been structured as new generation cooperatives, which require a detailed organizational structure plus a great amount of member financial equity. The process is often time consuming and delays are common.

How Missouri Compares to Others

Missouri has a broad portfolio of financial and technical assistance programs to help producers and agribusinesses enhance profitability. These programs give producers the flexibility in choosing the financial assistance programs most appropriate for the business strategies used, including enhanced marketing of farm products, adding value to farm products through further processing, or investing in new farm assets. Although the dollar value of impact from other state's programs is not available, the table below illustrates the range of Missouri's products and services compared to surrounding states.

	PRODUCTION AGRICULTURE				AGRICULTURAL MARKETING				VALUE-ADDED AGRICULTURE			
	Direct Loans	Aggie Bonds	Loan Guarantee	Grants	Tax Credits	Direct Loans	Loan Guarantees	Grants	Tax Credits	Direct Loans	Loan Guarantees	Grants
AK	<ul style="list-style-type: none"> ▪ Beginning Farmer Loan Program ▪ Capital Access Program ▪ Farm Link ▪ Boll Weevil Eradication Program 				<ul style="list-style-type: none"> ▪ Export Finance Program ▪ Agricultural Cooperative Loan Program ▪ Aquaculture Development Program 				<ul style="list-style-type: none"> ▪ ADFA Bond Guaranty Program 			
IL	<ul style="list-style-type: none"> ▪ Beginning Farmer Bond Program ▪ Young Farmer Guarantee Program ▪ State Guarantee Program for Restructuring Agricultural Debt ▪ Specialized Livestock Guarantee 				<ul style="list-style-type: none"> ▪ Illinois Products 				<ul style="list-style-type: none"> ▪ State Guarantee Program for Agri-Industries ▪ Cooperative Stock Purchase Program 			
IA	<ul style="list-style-type: none"> ▪ Beginning Farmer Loan Program ▪ Loan Participation Program 				<ul style="list-style-type: none"> ▪ Organic Certification NOP ▪ A Taste of Iowa 							
KS	<ul style="list-style-type: none"> ▪ Beginning Farmer Loan Program 				<ul style="list-style-type: none"> ▪ Market Development Funds ▪ From the Land of Kansas 				<ul style="list-style-type: none"> ▪ HACCP Implementation Program ▪ Commercialization Funds Program 			
MO	<ul style="list-style-type: none"> ▪ Animal Waste Treatment System Loan ▪ Alternative Loan ▪ Beginning Farmer Loan ▪ Single-Purpose Animal Facilities Loan Guarantee ▪ Crop & Livestock Loan Guarantees ▪ BOAC Grants ▪ Sustainable Agriculture Demonstration Awards ▪ Boll Weevil Eradication Program 				<ul style="list-style-type: none"> ▪ Alternative Loan ▪ AgriMissouri Promotion Programs ▪ Organic Certification NOP and Japan certified ▪ Sustainable Agriculture Demonstration Awards 				<ul style="list-style-type: none"> ▪ Alternative Loan ▪ Value-Added Loan Guarantee ▪ Value-Added Grant ▪ New Generation Cooperative Incentive Tax Credit ▪ Agricultural Product Utilization Contributor Tax Credit ▪ Organic Certification ▪ Sustainable Agriculture Demonstration Awards 			
NE	<ul style="list-style-type: none"> ▪ IDB-Based Agricultural Loan Program 				<ul style="list-style-type: none"> ▪ Organic Grain Certification ▪ Grow Nebraska 							
OK	<ul style="list-style-type: none"> ▪ Beginning Farmer Loan Program 				<ul style="list-style-type: none"> ▪ Made in Oklahoma 							

What Works

Producers can enhance their profitability by capturing more of the revenue stream in the value-added processing and marketing system. Proven strategies for capturing more of the value created in the system include: value-added agriculture, enhanced marketing of products, identity preserved crops, specialty crops, and organic production.

Agriculture is a capital-intensive enterprise. To compete effectively, Missouri's agricultural producers must have access to affordable capital. Financial and technical assistance are needed to bring feasible value-added products to the marketplace and to provide lenders with incentives

to finance new production, value-added, and small business activities. Examples of successful MDA initiatives include:

Missouri Agricultural and Small Business Development Authority

Beginning Farmer Loan Program
 Animal Waste Treatment System Loan Program
 Single-Purpose Animal Facility Loan Guarantee Program
 Missouri Value-Added Grant Program
 Missouri Value Added Loan Guarantee Program
 New Generation Cooperative Incentive Tax Credit Program
 Missouri Alternative Loan Program
 Missouri 4-H and FFA Crop and Livestock Guarantee Program

Ag Business Development

AgriMissouri promotions

Market Information & Outreach

Agriculture Development Fund's Building Our American Community Grants
 Agriculture Development Fund's Agriculture Scholarship Awards\\
 Show-Me Select Heifer Sales
 Feeder Calf Grading Program

Plant Industries

Sustainable Agriculture Demonstration Grants
 Boll Weevil Eradication Program

Concerns

MDA services to firms and farms create economic impacts throughout the state. However, it is difficult to accurately measure the economic impact of MDA financial and technical assistance programs. The economic impact measure is important in that it helps MDA develop strategies to focus on utilizing limited resources in the most effective and efficient means possible.

Other Sources of Information

Missouri Department of Agriculture -- <http://www.mda.state.mo.us>
 Missouri Agriculture Statistics Service -- agebb.Missouri.edu/mass
 USDA Farm Service Agency -- <http://www.fsa.usda.gov>
 National Council of State Agriculture Finance Programs
 National Association of Rural Rehabilitation Corporations

Data Table

Dollars of Economic Impact Per Fiscal Year

1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
\$255,967	\$285,139	\$325,869	\$445,176	\$524,151	\$2,781,574	\$48,850,495	\$29,838,331	\$65,977,046	\$67,802,626

Source: MDA Program Data

Description of Measure

The economic impact of MDA services is calculated as the sum of direct savings (i.e. interest rate reductions and production cost savings) and investments that result from the department's tax credits and other financial services. The measure does not include estimates of the direct and

indirect economic impacts commonly cited in economic impact analyses. Including those estimated impacts would substantially increase the measure presented here.

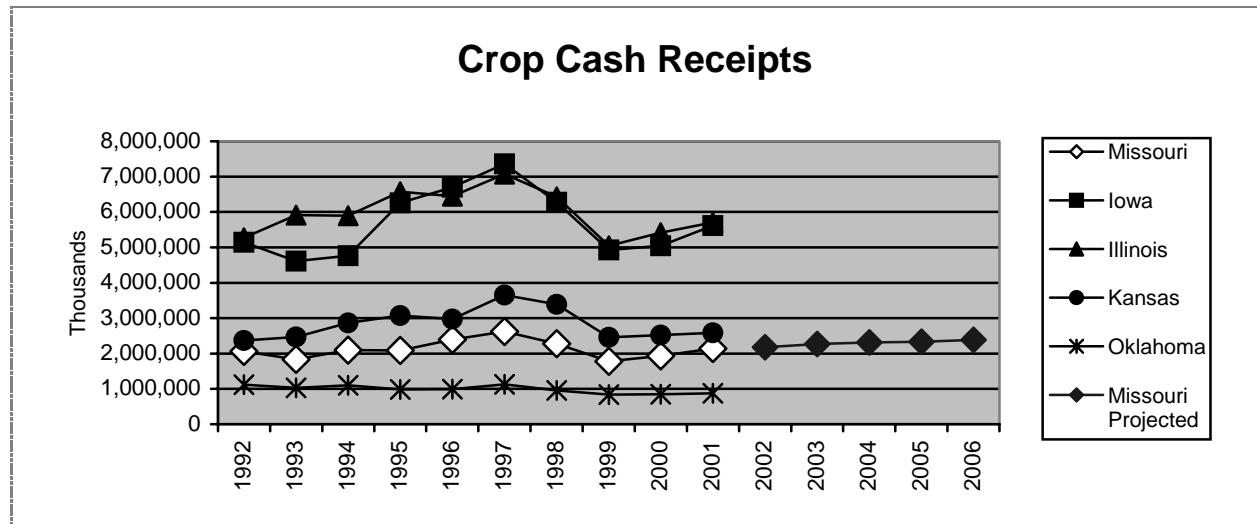
Programs included in the measure are:

1. Beginning Farmer Loan Program
2. Single-Purpose Animal Facilities Loan Guarantee Program
3. Animal Waste Treatment System Loan Program
4. Missouri Value-Added Grant Program
5. Missouri Value-Added Loan Guarantee Program
6. Agricultural Product Utilization Contributor Tax Credit Program
7. New Generation Cooperative Incentive Tax Credit Program
8. Alternative Loan Program
9. AgriMissouri Promotion Program
10. Sustainable Agriculture Demonstration Projects
11. Boll Weevil Eradication Program
12. Show-Me Select Heifer Sales
13. Premier Sales

Key Strategies:

1. Implement a statewide coordinated approach to assisting ag entrepreneurs that includes as joint venture partners, MDA, DED, MU Outreach & Extension, MO SBDC, and Missouri Enterprise/MAMTEC.
2. Maintain a variety of economic incentives that will increase investment in firms and farms through the Missouri Agricultural and Small Business Development Authority by at least \$81 million in FY 2004, 2005, and 2006.
3. Increase Alternative Loans available through the Agriculture Development Fund from \$1.0 million to \$1.6 million by June 30, 2006.

Key Objective: Increase sales of Missouri crops from \$2.2 billion in 2002 to \$2.4 billion in 2006.



Source: USDA Economic Research Service

Why This Measure Is Important

Cash crop receipts are a direct reflection on Missouri's rural economic health, which enhances the tax base for rural schools, health care and infrastructure and ultimately impacts Missouri's overall economic well being.

Trend Analysis

After trending upward and increasing 27% from 1992 to 1997, Missouri's crop cash receipts declined by 32% from 1997 to 1999. In 1999, farmers received the lowest value for their crop since 1991. Most of these losses were recovered in 2000 and 2001 as cash receipts increased by 21% during this two year period.

How Missouri Compares to Others

According to the USDA's Economic Research Service, Missouri's bordering states experienced similar declines from 1997 to 1999. During that time, Illinois, Iowa, Kansas, and Oklahoma's crop cash receipts declined 33%, 29%, 33%, and 26% respectively. From 2000 to 2002, Missouri had the largest percentage increase in crop cash receipts (21%) of any of those states: Iowa (14%); Illinois (13%); Kansas (5%); Oklahoma (4%).

Factors Influencing the Measure

Production: Global competition and lower demand has been the culprit in keeping commodity prices at record low levels in recent years. In addition to improved technologies and farming techniques, favorable worldwide weather moved some countries from customers to competitors. Drought-related production shortfalls in 2002 have led to higher prices recently for many crops. In response, the total planted acreage is expected to increase in 2003 and 2004.

Utilization: Global economic growth is a significant factor in crop cash receipts. A stronger global economy in 2003 improves the outlook for field crops and supports longer term increases in consumption, trade, and prices.

The growth rate of the alternative fuels industry is also a significant factor in the sales of feed grains. Sixteen states, including Missouri, have passed legislation banning the use of the petroleum-derived additive MTBE as an oxygenate for gasoline. The U.S. Senate recently passed a renewable fuels amendment to the Energy Policy Act that bans the use of MTBE nationwide. Since ethanol is poised to replace MTBE as the primary oxygenate for gasoline, the amendment would more than double ethanol production to at least five billion gallons a year by 2012. This is causing a significant increase in the number of ethanol production facilities and is expected to boost the value of the U.S. corn crop. The agricultural industry estimates that ethanol production adds about 40 cents to the value of a bushel of corn for producer-members of ethanol plants.

Biodiesel production and utilization show similar promise for soybeans. Missouri has fourteen public biodiesel pumps and fifteen distributors of biodiesel throughout the state. Current utilization is approximately 1 million gallons of biodiesel per year in the state. Nationwide biodiesel usage is approximately 35 million gallons. According to research conducted by the Food and Agricultural Policy Research Institute (FAPRI), 100 million gallon usage of biodiesel adds approximately 12 cents-per-bushel to the value of soybeans.

What Works

The Missouri Department of Agriculture (MDA) has taken several approaches to stabilize or improve crop cash receipts.

SPECIALTY CROPS

A Specialty Crops focus allows the department to assist Missouri farmers with producing and marketing non-traditional crops such as dry edible beans and traditional crops with unique characteristics. Missouri farmers receive a premium for these products. For example:

The department has recently been successful working with the Missouri Soybean Association in selling specialty (tofu) soybeans to Taiwan. Missouri farmers receive a premium for these soybeans. Tofu soybean production has increased by 300 percent over the last two years and farmers expect to increase their production another 75 percent this year. According to the Missouri Soybean Association, farmers growing tofu soybeans increase their profit by \$30 - \$50 per acre.

The MDA is assisting the Missouri Corn Growers (MCG) with developing markets for food-grade corn to Mexico. The State of Missouri's Mexican office assists the MCG with key food-grade corn buyer introductions and follow-up. Because Missouri corn producers are taking extra care in the planting, harvesting and storage of specific varieties of corn, they receive a premium for their product.

Missouri specialty rice farmers are receiving assistance from the department in locating domestic and international markets for their Jasmine and other specialty rice. Jasmine rice is traditionally produced in Thailand and Vietnam. The *AgriMissouri* program has helped direct-market Jasmine and other specialty rice to Missouri grocery stores and restaurants while the International Marketing Program has introduced the rice growers and millers to Taiwanese and European importers.

Production of the above-mentioned specialty and IP crops also creates more opportunities for direct marketing by individual producers, grower groups, or Producer Owned Cooperative

Organizations (POCO's). MDA, primarily through the Division of Ag Business Development, is working to encourage such direct marketing, including efforts to help producers find customers in both domestic and foreign markets.

The department is also providing new emphasis on sustainable and organic production. The Missouri Sustainable Agriculture Demonstration Award Program is a competitive grant program for Missouri producers who want to evaluate and adopt sustainable practices on their own farms. The program offers education opportunities through extensive collaborative efforts with various programs at the University of Missouri and Lincoln University. Farmers, government agency representatives, extension and university educators, and consumers who are interested in sustainable agriculture participate in sponsored programs including:

- Farmers' Forum: Demonstration Award farmers report on their projects before a national audience at the National Small Farm Trade Show and Conference held in Columbia, Missouri each year.
- "Small Farms, Big Ideas": This monthly series of articles featuring Demonstration Award recipients is distributed as an MDA press release. Articles are published in newspapers statewide, as well as in local, regional, and national publications including: *Missouri Ruralist*, *Rural Missourian*, and *Small Farm Today* magazine.
- Children's Education Programs: Hands-on sustainable agriculture activities for youth and adults reach at least 30,000 participants at the Missouri State Fair each year. Children's exhibits will also be presented at the Ozark Empire Fair and National Small Farm Trade Show and Conference for the first time in 2003.
- Outreach to Provide Free Sustainable Agriculture Information: Every three years, the program publishes a book containing the results of Demonstration Award projects. Results are also posted on the Sustainable Agriculture website maintained by AgEBB at: <http://agebb.missouri.edu/sustain>. Free sustainable agriculture publications from SARE, ATTRA (Appropriate Technology Transfer for Rural Areas), and Missouri Sustainable Agriculture programs are offered at a wide variety of events including fairs, workshops, field days, and conferences.

The newly established organic program provides information to producers interested in the production and marketing of organic products. The program is accredited as a certifying agent for the USDA's National Organic Program and by the Japanese Ministry of Agriculture, Food & Fisheries. Accreditation allows MDA to issue export certificates for organic agricultural products shipped to Japan under a cooperative agreement with USDA. In 1997, (the most recent official data available from the *Organic Farming Research Foundation*) U.S. organic soybean farmers received an average \$16.50 / bushel while Missouri farmers received only \$6.46/ bushel for their bulk commodity soybeans.

Although organic production usually results in a lower yield per acre, organic production clearly increases Missouri's cash receipts. A USDA Economic Research Service Report entitled "U.S. Organic Farming Emerges in the 1990's: Adoption of Certified Systems" showed that organic grain and soybean crops saw a 50 percent increase in price premiums from '93 – '99. The report also found substantial premiums for organic fruits, vegetables, and milk.

The department is also dedicated to supporting Missouri fruit and vegetable producers, which tend to be higher value crops than the traditional mix of corn, soybeans, and wheat. In addition to assistance in locating wholesale markets through grocery stores and restaurants, the

Department helps farmers with direct selling by helping establish Farmers' Markets. The number of farmers markets has increased from 75 in 1997 to 94 in 2003.

VALUE-ADDED PRODUCTS

The department's Missouri Ag and Small Business Development Authority MASBDA offers value-added grants, loan guarantees and tax credits for Missouri farmers interested in adding value to their agricultural products. For example, the MASBDA grants for two different ethanol plant feasibility studies and eventually provided tax credits to the Missouri investors in the plants. According to the Missouri Corn Growers Association, the ethanol plants pay farmers an additional ten cents per bushel for their corn (This is in addition to the thirty cents per bushel the USDA estimates ethanol production adds to a bushel of corn.) The Missouri ethanol plants now process 22.5 million bushels annually which equates to \$9.0 million in additional income annually. The two ethanol plants also support grain prices in the 13 counties that surround the plant. These counties produce 75 million bushels of corn annually.

The department is also successful in assisting value-added companies with developing and expanding export sales. In many instances, these exports have a direct positive impact on cash crop receipts. For example, the Department's Taiwan office is assisting a Taiwanese pork processor purchasing and remodeling a Missouri pork processing plant. The plant will initially process 20,417 metric tons of pork and export it to Japan. Because it takes one metric ton of soybean meal to produce one metric ton of pork, the plant's impact translated into 20,417 metric tons of additional soybean meal demand in Missouri.

The Missouri wine industry's vision is to grow over 2,000 acres of wine grapes and produce one million gallons of Missouri wine by 2010. Missouri wineries are also developing a new value-added product from surplus fruit that can be sold as fruit spirits or used to make fruit ports.

STABLE MARKETS

The department continues to protect Missouri farmers from man-made situations that could bankrupt crop farmers even in expected profitable years. For example, the Department tirelessly monitors public grain storage facilities and grain buyers to protect farmers from unstable grain companies. The department also approves agricultural chemicals and chemical applicators to ensure agricultural chemicals do not damage crops or the environment.

Concerns

- The data does not address profitability. The value of the crops sold could increase and at the same time higher input costs could easily erode profitability. The department may help a farmer become more profitable by assisting in the development of an ethanol processing plant. Although the corn prices are low, farmers can still profit from the ethanol and by-products produced.
- Recent environmental concerns over the fuel oxygenate MTBE has made ethanol attractive. However, decisions made at the federal level will have a huge impact as to how much demand growth there is for ethanol.
- Crop cash receipts do not and should not include U.S. government payments to farmers.

Other Sources of Information

Organic Crop Improvement Association—www.ocia.org

Food and Agricultural Policy Research Institute—www.fapri.org/main.htm

USDA Economic Research Institute—www.ers.usda.gov

Missouri Agricultural Statistics Service—www.agebb.missouri.edu/mass/

Data Table

Crop Cash Receipts

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
<u>—Thousand dollars—</u>										
Missouri	2,064,024	1,839,056	2,095,848	2,089,439	2,398,520	2,625,349	2,276,036	1,779,423	1,933,479	2,144,809
Iowa	5,141,321	4,605,828	4,765,306	6,257,863	6,695,283	7,353,691	6,277,551	4,923,588	5,047,008	5,614,520
Illinois	5,269,696	5,914,032	5,889,870	6,574,711	6,442,871	7,070,878	6,430,690	5,044,100	5,416,123	5,704,242
Kansas	2,372,015	2,469,440	2,861,490	3,074,021	2,971,250	3,654,840	3,391,059	2,454,800	2,519,386	2,585,380
Oklahoma	1,118,939	1,032,760	1,105,968	989,725	998,080	1,128,931	957,733	837,377	852,649	873,802

Source: USDA Economic Research Service

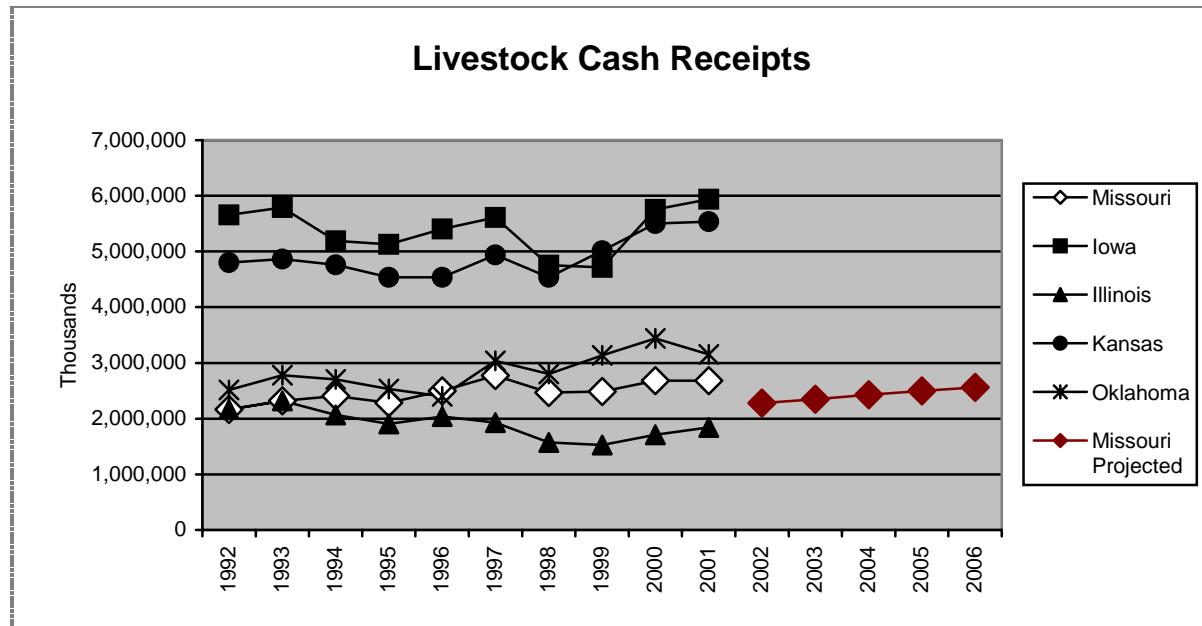
Description of Measure

This measure includes all food and fiber crops grown in the State of Missouri such as corn, soybeans, cotton, rice, vegetables, fruits, nuts, tobacco, seeds, Christmas trees, greenhouse and nursery stock.

Key Strategies:

1. Increase cash receipts from Missouri's specialty crops (e.g. tofu beans, Identity Preserved corn, organics).
2. Increase and/or expand the number and size of the state's value-added agricultural processing facilities.
3. Encourage direct marketing by producers, grower groups, and producer-owned cooperative organizations. Assist these producers in establishing sales to both domestic and foreign customers.
4. Minimize losses to Missouri grain producers due to financially unsound or fraudulent practices of grain dealers or warehouses and pursue the creation of a Grain Indemnity fund.

Key Objective: Increase sales of Missouri livestock from \$2.3 billion in 2002 to \$2.6 billion in 2006.



Source: USDA Economic Research Service

Why This Measure is Important

Missouri is home to a diverse livestock population, which produces revenue of over \$2.0 billion annually. Livestock production is important not only to the rural economy of Missouri but also to the state's overall economy. A strong livestock economy keeps producers on the farm and out of secondary jobs, which reduces unemployment. A strong livestock industry adds value to feed grain production and acts as a multiplier to the total rural economy, thereby adding jobs and increasing the state's tax base.

Trend Analysis

The value of livestock sales over the past ten years has remained fairly stable at between \$2.3 and \$2.7 billion, with minor fluctuations due primarily to the cyclical nature of pork and beef demand. Notable exceptions are sustained growth in the poultry industry primarily due to increasing production and steady product demand. The second exception to the stable trend in livestock products is a rapid decline in a once strong dairy industry. The expected decline in 2002 cash receipts is due to higher grain prices caused by drought, which resulted in increased numbers of livestock marketed and lower meat animal prices.

How Missouri Compares to Others

From 1992 to 2001, Missouri experienced a 24 percent increase in livestock cash receipts. Only Oklahoma (25 percent) has risen more over this period. Kansas (15 percent) and Iowa (5 percent) also experienced growth. However, Illinois' livestock receipts have declined 15 percent since 1992.

Missouri ranks second nationally in beef cow production, fourth in turkeys, sixth in hogs, ninth in broilers and nineteenth in milk production. Missouri has land predisposed to livestock production and is geographically located to supply livestock products to the rest of the nation.

Factors Influencing the Measure

The value of livestock and poultry sales is influenced by numerous factors including cost of production, animal disease status, weather/climate, consumer demand, public relations/advertising, and the overall supply and demand factors of the industry. The Missouri Department of Agriculture (MDA) can significantly affect many of these factors by working with the livestock industry to ensure healthy, safe, high quality products and by adding value to Missouri livestock and their products.

What Works

Disease Control

The department works to control and eradicate animal diseases that threaten the vitality of Missouri's animal agriculture and is prepared to respond to any animal disease that can negatively affect public health or limit the access of Missouri's livestock and livestock products to domestic or international markets.

In addition, animal disease prevention and surveillance is an on-going priority. More than 6,000 Missouri deer were checked for Chronic Wasting Disease (CWD) in the most recent hunting season and all were found to be negative. Although Exotic Newcastle Disease (END) has been diagnosed in California, Nevada, and Texas in the past year, Missouri has been able to avoid infection by encouraging strict bio-security in flocks. Bovine Spongiform Encephalopathy (BSE) has been found in Canada recently and is a serious concern to the U.S. and Missouri livestock industry. The department is also developing a comprehensive plan to prevent bio-terrorism in the agricultural industry.

Quality Assurance / Food Safety

Most livestock producers recognize and support consumers' demand for high quality, safe, and wholesome milk and meat products. Many quality defects are associated with mismanagement practices, genetic non-conformance, and improper use of animal medications. Addressing these issues through quality assurance programs increases the competitive position of Missouri's producers. A beef quality assurance program is currently being presented to many of our livestock markets, beef associations, and related groups. The department has cooperated with the U.S. Food and Drug Administration to provide training for department staff on residue prevention and detection in meat and milk.

The development of an individual animal identification database helps ensure continued access to foreign markets while ensuring food safety and building consumer confidence. In addition to improving disease control and food safety, animal identification provides livestock producers with the information needed to improve breeding and management practices to ensure a better return for their products.

State Meat Inspection

In addition to helping meet consumer demands for food safety, the State Meat Inspection Program encourages small livestock producers to work with existing slaughter processing plants to add value to their products through inspected slaughter. This program uses the same rules and regulations as the USDA program and receives financial support of 50 percent of the program's costs. The program has opened new market opportunities for intrastate sales. This program continues to expand as funding becomes available. Several more plants are on a waiting list until state inspection capacity is able to meet the demand for services.

Animal Welfare

Although not captured in traditional measures of the livestock industry, Missouri's 2,302 animal care facilities are a significant source of revenue and economic activity. The inspection, regulation, and licensing of these facilities helps ensure both animal well-being and the prosperity of this industry.

Environmental Assistance

Environmental issues (e.g. nutrient management, Total Maximum Daily Loads (TMDL), permitting, proper disposal of waste water, etc.) are increasingly important to the sustainability and expansion of animal agriculture in Missouri. Technical assistance on these issues helps livestock producers overcome communication and administrative barriers that may otherwise prevent them from locating, expanding, or even remaining in business in Missouri.

Business Development

The Agriculture Business Development Division's Livestock Team focuses on production, promotion, business counseling, training, and financing to increase the demand for Missouri agricultural commodities, products, and businesses. In commodity development, the Livestock Team and the Market Information and Outreach's commodity specialist work with state associations on promotional efforts for the industry. Business and industry development focuses on the economic development of livestock businesses in Missouri. The Livestock Team also partners with DED and local economic/community developers to identify potential sites, develop feasibility plans, solicit potential businesses and producers, and obtain the financial resources necessary to implement projects. While other organizations offer various pieces of the plan, no other single organization in Missouri offers the expertise and complete business development services found within the Livestock Team.

Marketing Assistance

The department works with producers, commodity associations, market owners, and buyers to increase the value and sales of livestock in a number of ways. Department personnel work to increase genotypic and phenotypic quality through programs that set minimum criteria for replacement heifers. Specialist also work with producers to promote the use of good management practices, such as vaccination programs, commingling, weaning, and quality assurance guidelines that increase the value and sales of feeder cattle. Department personnel work to educate and inform consumers and producers alike on livestock production, practices, regulations, and other concerns that affect Missouri's livestock industry.

Market news reporters work closely with USDA staff to issue daily and weekly livestock market information. Producers have access to the latest prices for most classes of livestock, allowing for accurate, well-informed marketing decisions. The Missouri Department of Agriculture market news service also strives to make the markets as accessible as possible, through the use of new technologies, including the Internet.

The International Marketing Program provides export counseling, market research, trade leads, and opportunities to meet international buyers, both here and outside Missouri. The International Marketing Program also operates trade offices in Taiwan and Mexico and collaborates with economic development offices in Africa, Asia, Europe, and South America.

Concerns

- Consumer demands for food safety and quality continue to increase. Most of these demands will require the producer to make considerable additional investments to remain a viable supplier of meat or milk.
- Environmental regulations may continue to increase the cost of producing livestock.
- The introduction of a foreign animal disease into the U.S. animal population could cause tremendous losses to all facets of the livestock industry. For example, in the first year of the United Kingdom's BSE crisis, the total economic loss from BSE was estimated at US \$1.2-1.6 billion.

Data Table

Livestock Cash Receipts

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
—Thousand dollars—										
Missouri	2,165,318	2,321,321	2,406,264	2,284,533	2,497,101	2,771,776	2,468,654	2,485,076	2,680,424	2,679,332
Iowa	5,655,773	5,791,111	5,190,742	5,130,421	5,406,182	5,613,082	4,753,474	4,713,211	5,756,632	5,935,589
Illinois	2,165,579	2,317,415	2,069,654	1,905,491	2,038,953	1,928,400	1,573,556	1,524,839	1,710,672	1,842,845
Kansas	4,799,566	4,863,421	4,761,464	4,533,816	4,537,434	4,935,638	4,538,646	5,012,108	5,499,588	5,535,664
Oklahoma	2,517,975	2,776,522	2,705,053	2,534,639	2,399,646	3,035,931	2,802,839	3,135,890	3,440,665	3,152,878

Source: USDA Economic Research Service

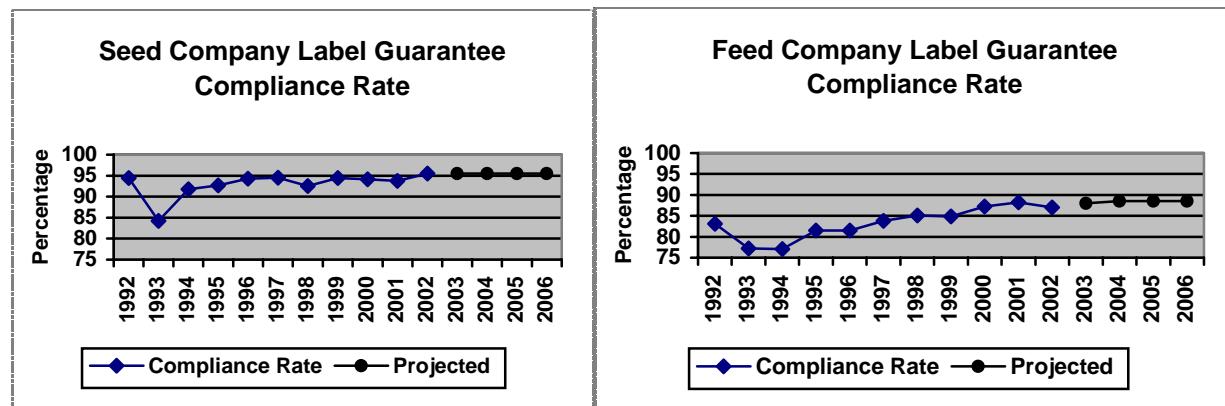
Description of Measure

The measure includes all farm level cash receipts from sales of livestock, including cattle, hogs, sheep, dairy products, poultry and eggs, honey, horses, wool, aquaculture, and other livestock.

Key Strategies

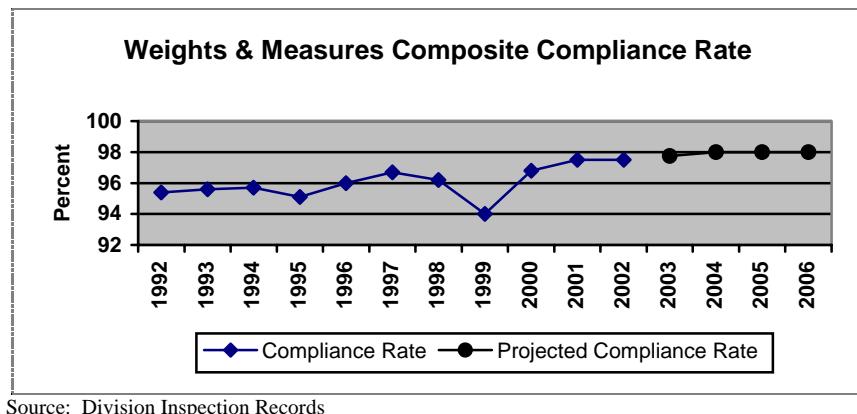
1. Achieve brucellosis-free classification in October 2003 and maintain disease-free state classifications for bovine tuberculosis, swine pseudorabies, swine brucellosis, and poultry Pullorum-Typhoid through 2006.
2. Prevent the incidence of Chronic Wasting Disease, Exotic Newcastle Disease, and Bovine Spongiform Encephalopathy while strengthening Homeland Security and bio-security.
3. Encourage the development of a National Livestock Identification Program that will provide the ability to locate the herd of origin within 48 hours of a disease or food safety incident.
4. Promote Missouri livestock at the commodity, product, and business level.
5. Educate producers about production practices, regulations, and new opportunities that add value or increase the marketability of Missouri's meat and animal products.
6. Educate all Missourians on the value and quality of Missouri's meat products and the importance of livestock production to the state's economy.

Key Objective: Improve producer and consumer protection.



Source: Summary Report Seed Insp. 1992-2002

Source: Summary Report Commercial Feed Insp. 1992-2002



Source: Division Inspection Records

Why These Measures Are Important

Regulatory activities maintain a level playing field in the marketplace and promote economic growth for agriculture. Surveillance of livestock, feed, seed, commercial weighing devices, and other agricultural products and commodities provide protection for consumers and producers by ensuring that established guidelines are followed. Assurances of the quality and safety of agricultural products bolster consumer confidence and promote economic prosperity. The U.S. Department of Commerce estimates that the sales of products or services impacted by weights and measures laws in the United States total over \$4.5 trillion, which represents 52.8 percent of the U.S. Gross Domestic Product (1998 figures). Regulatory compliance is gained through a combination of regular surveillance, communication, and education of industry/businesses.

Trend Analysis

Seed Label Guarantees: Excluding 1993, seed label compliance has consistently averaged between 92 and 96 percent during the 1990s. In 1993, floodwaters covered the state's major crop fields and significantly reduced overall seed quality.

Feed Label Guarantees: Overall feed label compliance has increased steadily since 1994. Beginning in 1995, the program began a critical review of compliance rates. Companies that were consistently below the mean compliance rate received additional attention and assistance in their compliance efforts. Since 1994, the overall compliance rate has increased 10 percentage points.

Commercial Weighing and Measuring Devices: The annual compliance rate for commercial weighing and measuring devices in Missouri has remained fairly consistent between 95 and 98 percent since 1990. There was a slight decline in compliance rates in 1999 to 93.9 percent due to enactment of more strict requirements for propane and refined fuels meters. Compliance rates for 2000 returned to 96.8% indicating the industry had adjusted to the new requirements.

How Missouri Compares To Others

Feed and Seed: It is difficult to make comparison to other states' compliance data because standards for violations vary from state to state. Nevertheless, review of seed inspection compliance rates for Illinois was reported as 82.8% in 2001. Indiana reported 91.9% in 2000 (North Central States Seed Control Officials Association Annual Meeting Report, 2000). In comparison, Missouri had a 93.7% compliance rate for seed.

Idaho reported a 78.5% overall compliance rate for feed in 2000. Forty-one of the violations were considered serious enough to issue a stop sale (2000 Annual Report of Commercial Feedstuffs, Idaho State Department of Agriculture). In comparison, Missouri reported an 87.0% overall compliance rate for feedstuffs in 2002, with withdrawals from distribution issued for all violations.

Weights and Measures: Collecting compliance rates from different states has been difficult because weights and measures inspections are not always contained within the same department. Some states have consumer affairs agencies, commerce departments, and environmental science departments that split up the weights and measures duties performed by the Missouri Weights and Measures Program. Annual reports of weights and measures activities are not widely published. The Illinois Bureau of Weights and Measures administers approximately the same programs as Missouri. In the 2000 annual report, Illinois reported their overall compliance rate for weights and measures inspections was 96%.

Factors Influencing The Measures

Compliance rates can be impacted by changes in regulations or guidelines. When changes are initiated, it can take time for industry to adjust and comply with new standards.

Another factor influencing compliance rates is special investigations stemming from a reported problem. Focusing on a problem can cause compliance rates to drop initially as inspectors make a point to check on devices or commodities that have been known to be out of compliance. Over the long term, however, compliance is expected to improve as a result of these investigations.

The level of technical assistance can also affect the measure. For example, the feed program directly influences compliance rates by reviewing the formulas, mixing procedures, and manufacturing practices that feed companies use to produce their products. By partnering with these companies and providing consultant-like services, manufacturing efficiencies, firm profitability, and compliance rates all improve.

What Works

To ensure compliance, the department combines an extensive communication and education effort with regular surveillance and enforcement actions. MDA staff takes time to explain requirements and provide technical assistance to help companies gain compliance. Staff enjoys a cooperative working relationship with the majority of the regulated community.

The feed program's Excellence in Compliance Award is an outstanding example of the effectiveness of this approach. In addition to providing process improvement consultations, the program has started to recognize feed companies with an Award of Excellence if they achieved at least a 90 percent compliance rate. Companies receiving the award have begun to use it as a marketing tool. The number of companies meeting the requirements for the award has increased 39 percent since the award's inception -- from 80 in 1998 to 111 in 2002.

Concerns

Advances in technology have increased the possibility of tampering/modifying commercial weighing and measuring devices. Regular surveillance may need to be bolstered with undercover investigations to ensure commercial devices are being used correctly and appropriately. The rising costs of commodities, such as gasoline, have increased consumer awareness regarding measurements. The division needs to be able to assure consumers they are getting what they pay for.

The length of time between inspections is a concern in some programs. The Bureau of Feed and Seed, for example, has only five inspectors to cover the state. Drive time and increased duties, such as BSE inspections, dictate that not all companies will be inspected every year. The Plant Pest Control Program targets only 30% of all licensed nursery dealers for annual inspections for harmful plant pests. Only 20% of licensed timber dealers are targeted for inspection annually. If the combination of unannounced inspections and technical assistance results in better quality and safer product for the Missouri consumer, additional staff may be warranted.

Other Sources Of Information

Missouri Department of Agriculture/Weights and Measures Division – www.mda.state.mo.us
 National Institute of Standards and Technology/National Conference on Weights and Measures
 -- www.nist.gov/own

Illinois Department of Agriculture/Weights and Measures Annual Report - 2000

Data Table

Compliance Rates

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Weights & Measures	95.2	95.4	95.6	95.7	95.1	96.0	96.7	96.2	94.0	96.8	97.5
Feed	77.8	83.1	77.2	77.0	81.5	81.5	83.8	85.1	84.8	87.3	88.2
Seed	96.0	94.4	84.2	91.8	92.7	94.3	94.5	92.5	94.5	94.1	93.7

Source: MDA Program Data

Description of Measure

Compliance rates are calculated by dividing the number of inspections that meet regulatory requirements by the total number of inspections. The Weights and Measures Composite Rate includes measures for the following items: scales, taximeters, scanned items, service station pumps, refined fuel truck and plant meters, terminal meters, LP gas meters, fuel quality samples, and moisture meters.

Key Strategies:

1. Conduct label reviews, formula checks, service samples, re-inspections, product compliance reviews, and follow-up on withdrawal and stop-sale orders in order to increase the percentage of companies meeting feed label guarantees to 89 percent and the percentage of companies meeting seed label guarantees to 95 percent.
2. Follow up on rejected weighing and measuring devices with rechecks within 30-60 days of initial inspection to certify compliance.
3. Monitor Placing in Service Reports to ensure that newly installed weighing and measuring devices meet the requirements established by the National Type Evaluation Program.
4. Continue to provide educational presentations/workshops to service technicians and regulated businesses to educate them about requirements.